COMMENTS OF THE SAFETY SPECTRUM COALITION
IN RESPONSE TO THE FEDERAL COMMUNICATIONS COMMISSION
REQUEST FOR COMMENT ON PHASE I TESTING OF PROTOTYPE U-NII-4 DEVICES

ET Docket No. 13-49

November 28, 2018

The Safety Spectrum Coalition[1] appreciates the opportunity to provide comments in response to the October 29, 2018, notice from the Federal Communications Commission (FCC) Office of Engineering Technology (OET) requesting comment on their report on Phase I testing performed to evaluate potential sharing solutions between the proposed Unlicensed National Information Infrastructure (U-NII) devices and Dedicated Short Range Communications (DSRC) operations in the 5850-5925 MHz (U-NII-4, or 5.9 GHz) frequency band.

Connectivity is a Key Component of a Modern Transportation System

The Safety Spectrum Coalition is supportive of FCC and DOT testing to evaluate the potential for sharing solutions in the 5.9GHz spectrum to ensure no harmful interference. Vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I), or more broadly, vehicle-to-everything (V2X) communications utilize the 5.9 GHz radio spectrum band that the FCC has allocated for intelligent transportation services to enhance safety and mobility. The unique, low-latency V2X communications possible in the 5.9 GHz band are revolutionary for transportation technology, enabling real-time communication of information between vehicles, other road users and the surrounding infrastructure to reduce traffic fatalities and injuries. Moreover, V2X communications may also be used to coordinate the safe movement of traffic which will mitigate congestion and improve traffic flow. For example, V2X can alert vehicles to dangerous situations before they encounter them, whether it be a patch of dense fog, an icy bridge, a vehicle stopped suddenly, or moving slowly through a blind intersection or a work zone. V2X also allows vehicles to coordinate their movements with the infrastructure, such as traffic lights and construction zones, to improve safety and efficiency, while reducing congestion. In truck platooning, V2V communication provides the ability for trucks to travel closer together at highway speeds more safely, taking advantage of the aerodynamic efficiency to lower fuel consumption and emissions.

With advancements in automated vehicle technology, it is important also to recognize the significance of V2X communications in supporting and enhancing the benefits of automation within a mixed fleet environment – where automated vehicles will be operating on the same roads as conventional vehicles, motorcycles, bicycles and pedestrians. V2X provides the ability

[1] The Safety Spectrum Coalition represents a broad group of industries, highway users, and transportation technology, consumer, and safety advocates that support and promote the need to deploy connected vehicle safety technologies in the 5.9 GHz radio spectrum band and ensure communications free from harmful interference. A list of the Safety Spectrum Coalition's members is included as Attachment A.

for both automated and non-automated vehicles to communicate with each other, enabling more informed decisions with respect to their movement on the roadway. In essence, V2X communication provides an additional sensor that can provide enhanced awareness of the surrounding environment beyond *line-of-sight* sensors such as LIDAR. Infrastructure operators can also receive and process vehicle information to better understand and manage the movement of traffic within the transportation system. While automated driving systems continue to advance, it is the combination of connected and automated driving that promises the greatest opportunity to dramatically reduce traffic fatalities and injuries and to improve throughput on the roads we already have.

Comments on Phase I Testing

It is critically important that any potential sharing plan does not create harmful interference to V2X transmissions, and we commend the FCC, in coordination with the National Telecommunications and Information Administration (NTIA) and the Department of Transportation (DOT), for developing and conducting a robust test plan to provide data on the performance of prototype unlicensed devices designed to avoid interfering with DSRC operations in the 5.9 GHz band.

The test plan as proposed in the June 1, 2016, U-NII-4 Public Notice[2] consists of three phases - FCC lab testing (Phase I), basic field tests with a few vehicles at a DoT facility (Phase II), and additional field tests with many more vehicles, more test devices, and real-world scenarios (Phase III). In the June 2016 notice, the FCC states, "[w]e anticipate that all three phases of the test plan will be completed before reaching any conclusions as to how unlicensed devices can safely operate in the 5.850-5.925 GHz band."[3] With the completion of the Phase I tests as documented in the subject report, the FCC now has baseline data for performing analyses of additional operational scenarios and other "real-world" empirical tests as part of the future phases of the coexistence test effort.[4] The Safety Spectrum Coalition urges the FCC, NTIA, and DOT to proceed and expedite the remaining phases of the original test plan before making any decision to allow unlicensed devices to operate in the 5.9 GHz band. We concur with DOT's recent statement that, "[w]ith lifesaving safety capabilities at stake, the Department maintains that all three phases of research must be completed before any decisions about spectrum reallocation can be made."[5]

[2] The Commission Seeks to Update and Refresh the Record in The "Unlicensed National Information Infrastructure (U-NII) Devices in The 5 GHz Band" Proceeding, ET Docket No. 13-49, Public Notice, 31 FCC Rcd 6130 (2016) (U-NII-4 Public Notice).

[3] Ibid, page 11

[4] Phase I Testing of Prototype U-NII-4 Devices, FCC Report: TR 17-1006, October 22, 2018, page 13.

[5] *U.S. Department of Transportation's National Highway Traffic Safety Administration issues statement on safety value of 5.9 GHz spectrum*, October 14, 2018 (https://www.nhtsa.gov/press-releases/us-department-transportations-national-highway-traffic-safety-administration-issues)

The 5.9 GHz Band

In releasing the Phase I report, the FCC invites comment on how developments since the June 2016 test plan announcement should impact the commission's evaluation of the test results, the three-phase test plan, or the pending proceeding on unlicensed use in the 5.9 GHz band. Both before and since the June 2016 announcement, federal and state governments, research institutions, technical standards organizations, technology companies and automobile and truck manufacturers have made significant investments in DSRC technology, relying on the spectrum allocation and rules for DSRC systems operating under the Intelligent Transportation Service. According to DOT's recently released *AV 3.0: Preparing for the Future of Transportation* (AV 3.0), there are over 70 active deployments in the U.S. of V2X using DSRC. DOT estimates that by the end of 2018 there will be over 18,000 vehicles deployed with aftermarket V2X devices along with over 1,000 V2X roadside units, and there are plans to deploy over 2,100 DSRC infrastructure devices by 2020.[6] Also since 2016, both Toyota[7] and General Motors[8] have announced plans that will significantly increase the number of passenger vehicles on the road equipped with DSRC over the next several years. Investment in DSRC does not occur when those vehicles hit showrooms – it is occurring now. Additionally, truck platooning systems, which improve fuel efficiency, provide safety benefits, and stimulate greater business efficiency in trucking, have been successfully demonstrated on U.S. roads by a number of manufacturers as well as the Federal Highway Administration.[9] We concur with DOT's assessment in AV 3.0 that, "[a]s a result of these investments and partnerships, V2X technology is on the verge of wide-scale deployment across the Nation." The Safety Spectrum Coalition urges the FCC to prioritize protection of all seven channels of the 5.9 GHz spectrum for transportation safety, and to act quickly to address policy uncertainty that could otherwise jeopardize or give pause to the significant investment decisions being made by federal, state and local governments, passenger vehicle and truck manufacturers and suppliers, technology and trucking companies, and developers of intelligent transportation system infrastructure equipment.

While we welcome the exploration and evaluation of other wireless technologies that could also enable V2X applications in the future, DSRC's proven capability for low-latency, peer-to-peer transmission of data between moving vehicles, other road users, and infrastructure is currently unmatched. Furthermore, interest in additional communications technologies under development only stresses the point that the FCC should continue to reserve all seven channels for V2X communications.

---

[6] *Preparing for the Future of Transportation, Automated Vehicles 3.0*, U.S. DOT, October 2018, page 14 (https://www.transportation.gov/av)

[7] *Toyota and Lexus to Launch Technology to Connect Vehicles and Infrastructure in the U.S. in 2021*, April 16, 2018 (https://corporatenews.pressroom.toyota.com/releases/toyota+and+lexus+to+launch+technology+connect+vehicles+infrastructure+in+u+s+2021.htm).

[8] *Cadillac to Expand Super Cruise Across Entire Lineup*, June 6, 2018 (https://media.gm.com/media/cn/en/gm/news.detail.html/content/Pages/news/cn/en/2018/June/0606_Cadillac-Lineup.html)

[9] *Federal Highway Administration Showcases Cutting-Edge Truck Platooning Technology*, September 14, 2017 (https://www.fhwa.dot.gov/pressroom/fhwa1713.cfm)

Regarding the rapid advancements in automated vehicle technology since 2016, the Safety Spectrum Coalition notes that vehicle connectivity is not supplanted by automated vehicle technology, but rather it is a key component to supporting high level vehicle automation providing complementary and fallback safety. V2V communication will also support applications to improve interactions between AVs and conventional vehicles in a mixed-fleet environment as noted above, and this can be enhanced through after-market installations of V2X capabilities in conventional vehicles that are already on the road. As government and industry stakeholders move forward to deploy V2X applications and automated vehicle technology to improve safety and mobility, it is of critical importance that we protect the entire 5.9 GHz band for interference-free V2X operations.

Conclusion

In summary, the Safety Spectrum Coalition strongly supports the continuation and expediting of the FCC's efforts to test spectrum sharing to determine if unlicensed devices such as Wi-Fi can safely share the 5.9 GHz band with V2X operations without harmful interference. There have been significant investments in DSRC technology by many entities in both the public and private sectors, relying on the allocated spectrum and current channelization. Further delays in completion of the spectrum sharing tests and questions about channel allocation and spectrum rules contribute to uncertainty regarding these and further investments, potentially delaying improvements in safety and efficiency for our transportation system. The Safety Spectrum Coalition firmly believes that evaluating the impacts of sharing, and any potential sharing plan, should work around intelligent transportation operations in the band and not slow deployment of V2X and the realization of its benefits.

Respectfully Submitted,

/s/ Ellen Gleberman

Scott D. Delacourt
Sara M. Baxenberg
WILEY REIN LLP
1776 K St. NW
Washington, DC 20006

Counsel to the Association of Global Automakers, Inc.

Ellen Gleberman
Hannah Izon
The Association of Global Automakers, Inc.
1050 K Street NW
Washington, DC 20001

ATTACHMENT A

Safety Spectrum Coalition Members

- AAA
- American Highway Users Alliance
- American Traffic Safety Services Association
- American Trucking Associations
- Association of Global Automakers
- Commercial Vehicle Training Association
- Intelligent Transportation Society of America
- Mothers Against Drunk Driving
- Motor & Equipment Manufacturers Association
- NAFA Fleet Management Association
- National Safety Council
- Panasonic
- Siemens